

# The Availability and Price of Petroleum and Petroleum Products Produced in Countries Other Than Iran

Number 21 in a series of reports required by section 1245(d)(4)(A) of the National Defense Authorization Act for Fiscal Year 2012

June 25, 2015















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This is the 21<sup>st</sup> in a series of reports prepared in fulfillment of section 1245(d)(4)(A) of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, as amended. The law requires the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy, to submit to Congress a report on the availability and price of petroleum and petroleum products produced in countries other than Iran in the two-month period preceding the submission of the report. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the U.S. Government. The views in this report, therefore, should not be construed as representing those of the U.S. Department of Energy or other federal agencies. However, EIA consulted with the U.S. Department of the Treasury, the U.S. Department of State, and the intelligence community in the process of developing this report. Readers may review early editions of this report for detailed background and contextual information not repeated here.

## May - June 2015 Update

- The global oil market has further loosened since the last update of this report, with total supply outpacing global demand by volumes significantly larger than previously estimated. The looser global oil balances occurred amid higher supplies in North America, which were revised upwards by about 0.6 million barrels per day (b/d) through June, resulting in inventory builds that were much higher than previously estimated. Despite the continued depressed oil prices, uncertainty surrounding global oil demand, and robust production growth, members of the Organization of the Petroleum Exporting Countries (OPEC) voted on June 5 to retain the 30 million b/d production level, although latest estimates indicate that OPEC producers supplied roughly 30.8 million b/d of crude oil on average in May and June, well above the aggregate production ceiling (Table 3).
- The U.S. Energy Information Administration (EIA) estimates that global oil inventories built by an average of 2.8 million b/d in May and June, compared with a 1.3 million b/d build during the same time last year and an average 0.3 million b/d build over the previous three years (2012-14) (Table 1, Figure 1). In May, inventories built by approximately 3.3 million b/d, indicating the biggest monthly inventory build (and the biggest imbalance) since January 2012. Estimated inventories held by countries in the Organization for Economic Cooperation and Development (OECD) in May and June stood roughly 276 million barrels higher on average compared with the previous three years (Table 1). Markedly higher year-over-year global production growth is driving the inventory builds, although production growth is expected to moderate through the remainder of 2015 among non-OPEC producers compared with the previous year. In contrast, OPEC crude oil production is expected to remain robust, at 30.8 million b/d.
- Despite recent inventory builds, expectations of strong global consumption in the near-term are likely supporting crude oil prices at current levels. Higher global refinery runs in anticipation of increased summer demand as well as upcoming direct burn of crude oil in Saudi Arabia are applying upward price pressure to crude oil. However, uncertainty on both the supply and demand side of the market could result in large future price movements. The possible lifting of sanctions on Iran could move additional supply on to the world market and reduce prices, while an unexpected supply disruption at a time of low surplus production capacity may push prices higher. Meanwhile, if a slowdown in global economic activity from current levels occurred, it would reduce demand and result in higher-than-expected inventory builds, moving prices lower.
- Crude oil prices moved within a relatively narrow range in May and June, stabilizing above levels at the start of the year but remaining well below prices at this time in 2014. The North Sea Brent front month futures contract averaged \$64 per barrel (/b) for the five-trading-days ending June 23 (Figure 2), a decrease of \$2/b since April 30. Over the previous 60 days, Brent crude oil prices moved within a \$6/b range, with historical volatility dropping to its lowest point since early November 2014.
- Estimates that the largest inventory builds of 2015 already occurred and a gradual tightening of the market into 2016 are supported by reduced contango (when near-term prices are lower than farther dated ones) in the Brent futures curve. The Brent 1<sup>st</sup>-13<sup>th</sup> month spread averaged about \$5/b lower for the five-trading-days ending June 23 (Figure 3), with the discount for near-month contracts declining \$3/b compared to the March and April 2015 average (Figure 2).
- Global petroleum and other liquids<sup>1</sup> consumption in May and June averaged 92.9 million b/d, 1.5 million b/d higher than the same time last year and about 0.4 million b/d higher than the March and

<sup>&</sup>lt;sup>1</sup> The term "petroleum and other liquids" encompasses petroleum and petroleum products and close substitutes, including

April average consumption. Total global consumption during the most recent two months was boosted by relatively lower crude oil prices and seasonal factors, including direct crude oil burn in Saudi Arabia for electric power generation and the increase in gasoline consumption in the United States as the traditional driving season gets underway. Non-OECD consumption grew by 0.9 million b/d from the previous two months, led by the Middle East, while OECD consumption fell by 0.5 million b/d, despite the 0.3 million b/d increase in the United States. The gains in the U.S. consumption were more than offset by declines in Europe and Japan. Global petroleum and other liquids production, which averaged 95.7 million b/d in May and June, grew by 3.1 million b/d compared with the same time last year. Non-OPEC production increased by 1.9 million b/d, and OPEC production increased by 1.2 million b/d compared with the year-ago period, led by production in Iraq and Saudi Arabia (Table 2, Table 3).

- Global surplus crude oil production capacity averaged 1.7 million b/d in May and June, 0.4 million b/d lower than this time last year (Table 3). This level of spare production capacity is roughly unchanged relative to the available surplus capacity in March and April. Spare capacity is typically an indication of market conditions, and surplus capacity below 2.5 million b/d is an indicator of a tight market. However, the current volume of global oil inventories makes the current low surplus capacity level less significant. Nonetheless, low surplus capacity heightens uncertainty about the market's ability to counteract unforeseen supply outages, particularly in the current geopolitical climate with ongoing conflicts in or next to major oil producing countries in the Middle East and North Africa, which has lent support to crude oil prices in recent months.
- Global unplanned supply disruptions rose to 3.4 million b/d in May and June, almost 0.4 million b/d higher than the previous two-month period. Unplanned OPEC crude oil supply disruptions increased in May and June by roughly 0.3 million b/d because of increased outages in Saudi Arabia and Kuwait, where the Neutral Zone production at the Khafji and Wafra fields was shut in. Libya's unplanned outage also rose on average in May and June (Figure 4). Unplanned non-OPEC liquid fuels supply disruptions also increased by about 0.1 million b/d to average almost 0.8 million b/d in May and June, resulting mainly from the shut-in volumes in Canada, where wildfires in Alberta caused a number of oil sands production facilities to cease operations for approximately four weeks. In addition, cyclone activity and workers' strikes at the Gippsland JV project in Australia resulted in shut in volumes in May (Figure 5).
- Iran's petroleum and other liquids production averaged 3.4 million b/d in May and June, of which 2.9 million b/d was crude oil and the remainder was condensate and natural gas plant liquids. EIA estimates that Iran's petroleum and other liquids production averaged almost 3.4 million b/d in 2014, nearly 0.2 million b/d above the 2013 level but the same as the 2012-14 average (Table 1).
- Iran and the five permanent members of the United Nations Security Council plus Germany (P5+1) are approaching the June 30 deadline for a final nuclear agreement. The comprehensive agreement could result in the lifting of oil-related sanctions against Iran, although the potential timing and order that sanctions could be suspended is highly uncertain. Iran produced 3.6 million b/d of crude oil in late 2011, before the recent round of sanctions was enacted, forcing Iran to shut in a substantial portion of its production. Iran's ability to bring back online previously shut-in volumes and increase exports depends on a host of factors, including the current condition of oil fields and infrastructure that were shut in and the pace of sanctions relief.

crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gain.

<sup>&</sup>lt;sup>2</sup> The growth rates referenced in this report may not exactly match corresponding values in tables as a result of independent rounding.

• EIA revised the preliminary estimates of petroleum and other liquids production and consumption for March and April published in the previous edition of this report. Global petroleum and other liquids production for March and April was revised upward by 1.0 million b/d to average 95.3 million b/d, while global consumption was revised upward by 0.2 million b/d to average 92.5 million b/d. Changes in global supply were the result of higher-than-expected U.S. and Canada production volumes, which accounted for more than 0.7 million b/d of the upwards revision. Global unplanned disruptions and OPEC spare production capacity remained unchanged.

#### **Tables**

Table 1. Summary of Estimated Petroleum and Other Liquids Quantities and Prices

	May 2015	June 2015	May – June 2015 Average	May – June 2014 Average	2012 – 2014 Average
Global Petroleum and Other Liquids (million barrels per day)					
Global Petroleum and Other Liquids Production (a)	95.6	95.8	95.7	92.6	91.6
Global Petroleum and Other Liquids Consumption (b)	92.3	93.5	92.9	91.3	91.2
Biofuels Production (c)	2.2	2.3	2.3	2.3	1.9
Biofuels Consumption (c)	1.6	1.6	1.6	2.0	1.9
Iran Liquid Fuels Production	3.4	3.4	3.4	3.4	3.4
Iran Liquid Fuels Consumption	1.9	1.9	1.9	1.9	1.9
Petroleum and Petroleum Products Produced and Consumed in	Countries Othe	er Than Iran (r	nillion barrels pe	r day)	
Production (d)	90.0	90.0	90.0	86.9	86.2
Consumption (d)	88.8	90.1	89.4	87.5	87.4
Production minus Consumption	1.2	0.0	0.6	-0.6	-1.2
World Inventory Net Withdrawals Including Iran	-3.3	-2.3	-2.8	-1.3	-0.3
Estimated OECD Inventory Level (e) (million barrels)	2912	2941	2,927	2,642	2,650
Surplus Production Capacity (million barrels per day)					
OPEC Surplus Crude Oil Production Capacity (f)	1.7	1.7	1.7	2.1	2.1
Oil Price Level					
WTI Front Month Futures Price (g) (\$ per barrel)	59.37	59.93	59.63	103.47	95.04
Brent Front Month Futures Price (h) (\$ per barrel)	65.61	63.94	64.84	110.61	106.61
RBOB Front Month Futures Price (i) (\$ per gallon)	2.03	2.07	2.05	3.00	2.80
Oil Price Time Spread					
WTI 1st - 13th Month Futures Spread (\$ per barrel)	-3.75	-2.80	-3.31	9.90	3.19
Brent 1st - 13th Month Futures Spread (\$ per barrel)	-4.32	-4.84	-4.56	6.00	4.29

Note: The term "petroleum and other liquids" encompasses crude oil, lease condensate, natural gas liquids, biofuels, coal-to-liquids, gas-to-liquids, and refinery processing gains, which are important to consider in concert due to the inter-related supply, demand, and price dynamics of petroleum, petroleum products, and related fuels.

- (a) Production includes crude oil (including lease condensates), natural gas liquids, other liquids, and refinery processing gains.
- (b) Consumption of petroleum by the OECD countries is synonymous with "products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel, and loss, and bunkering.
- (c) Biofuels production and consumption are based on EIA estimates as published in the International Energy Statistics. Biofuels production in the third quarter tends to be at its highest level in the year as ethanol production in Brazil reaches its seasonal peak and is typically lowest in the first quarter as seasonal production falls in the South/South-Central region of Brazil.
- (d) Global production of petroleum and petroleum products outside of Iran is derived by subtracting biofuels production and Iran liquid fuels production from global liquid fuels production. The same method is used to calculate global consumption outside of Iran.
- (e) Estimated inventory level is for OECD countries only.
- (f) EIA defines surplus oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field. It also does not include additional capacity that may be available in Iran, but which is currently offline due to the impacts of U.S. and EU sanctions on Iran's ability to sell its oil.
- (g) WTI refers to West Texas Intermediate crude oil traded on the New York Mercantile Exchange (NYMEX), owned by Chicago Mercantile Exchange (CME) Group.
- (h) Brent refers to Brent crude oil traded on the Intercontinental Exchange (ICE).
- (i) RBOB refers to reformulated blendstock for oxygenate blending traded on the NYMEX.

Note: June prices include data through market close on June 23, 2015.

Source: U.S. Energy Information Administration.

Table 2. Global Petroleum and Other Liquids Production, Consumption, and Inventory Estimates

	May 2015	June 2015	May – June 2015 Average	May – June 2014 Average	2012 – 201 Average
Production (million barrels per day) (a)					
OECD (b)	26.9	26.9	26.9	25.4	24.0
U.S. (50 States)	15.3	15.4	15.4	14.0	12.5
Canada	4.7	4.6	4.6	4.2	4.1
Mexico	2.6	2.6	2.6	2.9	2.9
North Sea (c)	2.8	2.7	2.7	2.7	2.9
Other OECD	1.6	1.6	1.6	1.6	1.6
Non-OECD	68.7	68.9	68.8	67.2	67.5
OPEC (d)	37.1	37.1	37.1	35.9	36.7
Crude Oil Portion	30.8	30.7	30.8	29.7	30.4
Non-crude liquids	6.4	6.4	6.4	6.3	6.3
Eurasia (e)	14.0	13.9	13.9	13.8	13.8
China	4.6	4.6	4.6	4.6	4.5
Other non-OECD	13.0	13.3	13.1	12.8	12.5
Total World Production	95.6	95.8	95.7	92.6	91.6
Non-OPEC Production	58.5	58.7	58.6	56.7	54.8
Consumption (million barrels per day) (f)					
OECD	44.8	45.7	45.3	44.6	45.9
U.S. (50 States)	19.3	19.5	19.4	18.7	18.8
U.S. territories	0.4	0.4	0.4	0.4	0.3
Canada	2.3	2.4	2.4	2.4	2.4
Europe	13.0	13.5	13.2	13.3	13.6
Japan	3.7	3.8	3.7	3.8	4.5
Other OECD	6.2	6.2	6.2	6.1	6.2
Non-OECD	47.5	47.7	47.6	46.7	45.4
Eurasia	4.5	4.5	4.5	4.7	4.7
Europe	0.7	0.7	0.7	0.7	0.7
China	11.1	11.2	11.1	10.8	10.4
Other Asia	12.2	12.1	12.2	11.8	11.5
Other non-OECD	19.0	19.2	19.1	18.6	18.0
Total World Consumption	92.3	93.5	92.9	91.3	91.2
Inventory Net Withdrawals (million barrels	per day)				
U.S. (50 States)	-0.4	-0.3	-0.3	-0.5	-0.1
Other OECD	-1.0	-0.7	-0.9	-0.3	0.0
Other Stock Draws and Balance	-1.9	-1.3	-1.6	-0.5	-0.2
Total Stock Draw	-3.3	-2.3	-2.8	-1.3	-0.3
End-of-period Inventories (million barrels)					
U.S. Commercial Inventory	1,254	1,262	1,258	1,120	
OECD Commercial Inventory	2,912	2,941	2,927	2,642	2,650

- a) Production includes production of crude oil (including lease condensates), natural gas liquids, biofuels, other liquids, and refinery processing gains.
- b) OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.
- c) North Sea includes offshore supply from Denmark, Germany, the Netherlands, Norway, and the United Kingdom.
- d) OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.
- e) Eurasia = Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. Estonia is included in "Other OECD" totals.
- f) Consumption of petroleum by the OECD countries is synonymous with "products supplied," defined in the glossary of the EIA Petroleum Supply Monthly, DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

Note: The sum of individual countries or regions may not add to the totals because of independent rounding. Source: U.S. Energy Information Administration.

Table 3. OPEC Crude Oil (Excluding Condensates) and Other Liquids Production Estimates

Production (million barrels per day)	May 2015	June 2015	May – June 2015 Average	May – June 2014 Average	2012 – 2014 Average
Crude Oil					
Algeria	1.1	1.1	1.1	1.2	1.2
Angola	1.8	1.8	1.8	1.6	1.7
Ecuador	0.6	0.6	0.6	0.6	0.5
Iran	2.9	2.9	2.9	2.8	2.8
Iraq	4.0	4.0	4.0	3.3	3.1
Kuwait	2.5	2.5	2.5	2.6	2.6
Libya	0.4	0.4	0.4	0.2	0.9
Nigeria	2.0	2.0	2.0	1.9	2.0
Qatar	0.7	0.7	0.7	0.7	0.7
Saudi Arabia	9.9	9.9	9.9	9.7	9.7
United Arab Emirates	2.7	2.7	2.7	2.7	2.7
Venezuela	2.4	2.4	2.4	2.4	2.4
OPEC Total	30.8	30.7	30.8	29.7	30.4
Non-crude liquids	6.4	6.4	6.4	6.3	6.3
Total OPEC Supply	37.1	37.1	37.1	35.9	36.7
Crude Oil Production Capacity					
Africa	5.2	5.2	5.2	4.9	5.8
South America	3.0	3.0	3.0	2.9	2.9
Middle East	24.3	24.3	24.3	23.9	23.8
OPEC Total	32.5	32.4	32.4	31.8	32.5
Surplus Crude Oil Production Capacity	(a)				
Africa	0.0	0.0	0.0	0.0	0.0
South America	0.0	0.0	0.0	0.0	0.0
Middle East	1.7	1.7	1.7	2.1	2.1
OPEC Total	1.7	1.7	1.7	2.1	2.1

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Libya, and Nigeria (Africa); Ecuador and Venezuela (South America); Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates (Middle East).

Note: The sum of individual countries may not add to the totals because of independent rounding. Source: U.S. Energy Information Administration.

a) EIA defines surplus crude oil production capacity as potential oil production that could be brought online within 30 days and sustained for at least 90 days, consistent with sound business practices. This does not include oil production increases that could not be sustained without degrading the future production capacity of a field. It also does not include additional capacity that may be available in Iran, but which is currently offline because of the effects of U.S. and EU sanctions on Iran's ability to sell its oil.

**Table 4. Non-OPEC Petroleum and Other Liquids Production Estimates** 

Production (million barrels per day)	May 2015	June 2015	May – June 2015 Average	May – June 2014 Average	2012 – 2014 Average
North America	22.6	22.6	22.6	21.1	19.5
Canada	4.7	4.6	4.6	4.2	4.1
Mexico	2.6	2.6	2.6	2.9	2.9
United States	15.3	15.4	15.4	14.0	12.5
Central and South America	5.5	5.7	5.6	5.3	5.0
Argentina	0.7	0.7	0.7	0.7	0.7
Brazil	3.3	3.4	3.3	3.1	2.8
Colombia	1.0	1.0	1.0	1.0	1.0
Other Central and South America	0.5	0.5	0.5	0.5	0.5
Europe	3.7	3.7	3.7	3.7	3.9
Norway	1.8	1.7	1.8	1.7	1.9
United Kingdom (offshore)	0.8	0.8	0.8	0.8	0.9
Other North Sea	0.2	0.2	0.2	0.2	0.2
Eurasia (a)	14.0	13.9	14.0	13.8	13.8
Azerbaijan	0.9	0.9	0.9	0.9	0.9
Kazakhstan	1.7	1.7	1.7	1.6	1.7
Russia	10.9	10.8	10.8	10.8	10.7
Turkmenistan	0.3	0.3	0.3	0.3	0.3
Other Eurasia	0.2	0.2	0.2	0.2	0.2
Middle East	1.1	1.2	1.2	1.2	1.2
Oman	1.0	1.0	1.0	1.0	0.9
Syria (b)	0.0	0.0	0.0	0.0	0.1
Yemen	0.0	0.0	0.0	0.1	0.1
Asia and Oceania	9.4	9.4	9.4	9.2	9.1
Australia	0.5	0.5	0.5	0.5	0.5
China	4.6	4.6	4.6	4.6	4.5
India	1.0	1.0	1.0	1.0	1.0
Indonesia	0.9	0.9	0.9	0.9	0.9
Malaysia	0.7	0.7	0.7	0.7	0.7
Vietnam	0.4	0.4	0.4	0.3	0.3
Africa	2.3	2.3	2.3	2.3	2.3
Egypt	0.7	0.7	0.7	0.7	0.7
Equatorial Guinea	0.3	0.3	0.3	0.3	0.3
Gabon	0.2	0.2	0.2	0.2	0.2
Sudan and South Sudan	0.3	0.3	0.3	0.3	0.2
Total non-OPEC liquids	58.5	58.7	58.6	56.7	54.8
OPEC non-crude liquids (c)	6.4	6.4	6.4	6.3	6.3
Non-OPEC + OPEC non-crude liquids	64.9	65.1	65.0	63.0	61.1

Note: The sum of individual countries may not add to regional totals because of independent rounding. Source: U.S. Energy Information Administration.

**Table 5. Crude Oil and Petroleum Product Price Data** 

Item	May 2015	June 2015	May – June 2015 Average	May – June 2014 Average	2012 – 2014 Average
;III	141dy 2013	Julie 2013	2013 Avelage	2014 Average	Average
Brent Front Month Futures Price (\$ per barrel)	65.61	63.94	64.84	110.61	106.61
WTI Front Month Futures Price (\$ per barrel)	59.37	59.93	59.63	103.47	95.04
Dubai Front Month Futures Price (\$ per barrel)	63.29	61.94	62.67	106.92	103.92
Brent 1st - 13th Month Futures Spread (\$ per barrel)	-4.32	-4.84	-4.56	6.00	4.29
WTI 1st - 13th Month Futures Spread (\$ per barrel)	-3.75	-2.80	-3.31	9.90	3.19
RBOB Front Month Futures Price (\$ per gallon)	2.03	2.07	2.05	3.00	2.80
Heating Oil Front Month Futures Price (\$ per gallon)	1.96	1.90	1.93	2.95	2.93
RBOB - Brent Futures Crack Spread (\$ per gallon)	0.47	0.55	0.51	0.37	0.26
Heating Oil - Brent Futures Crack Spread (\$ per gallon)	0.40	0.37	0.39	0.31	0.39

Note: June prices include data through market close on June 23, 2015.

Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE), and Dubai Mercantile Exchange (DME).

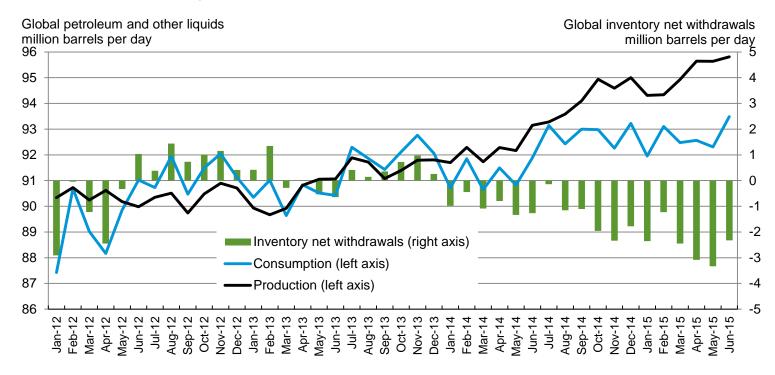
a) Eurasia = Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

b) The estimates are 0.03 million b/d in both months.

c) OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

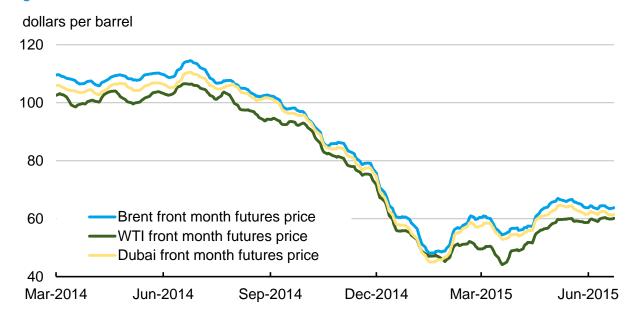
### **Figures**

Figure 1. Global Petroleum and Other Liquids Production, Consumption, and Inventory Net Withdrawals, January 2012 – June 2015



Note: See Table 1 footnotes for definitions of petroleum and other liquids, production, and consumption. Source: U.S. Energy Information Administration.

**Figure 2. Front Month Crude Oil Futures Prices** 



Note: All prices represent rolling 5-day averages.

Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME), Intercontinental Exchange (ICE) and Dubai Mercantile Exchange (DME).

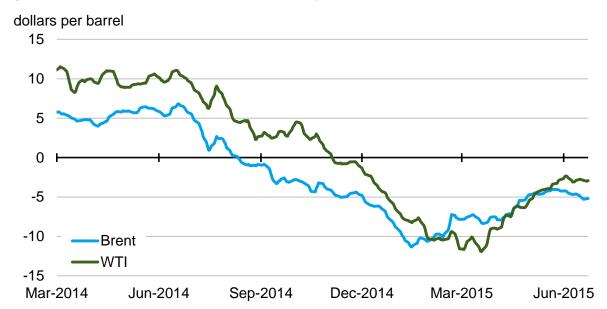
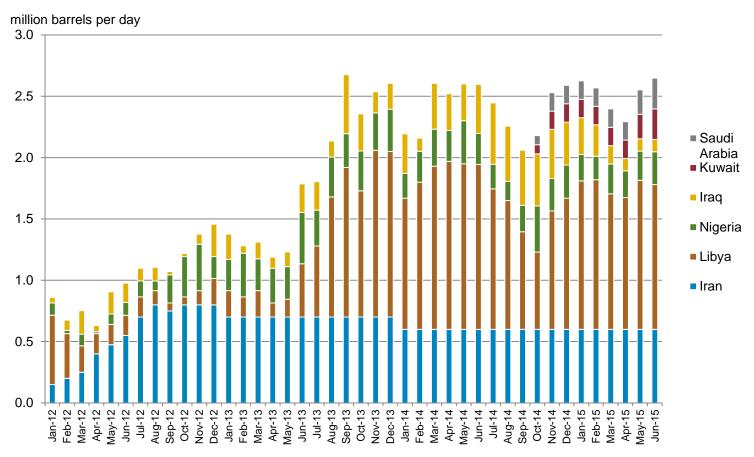


Figure 3. Crude Oil 1st - 13th Month Futures Price Spread

Note: All prices represent rolling 5-day averages.

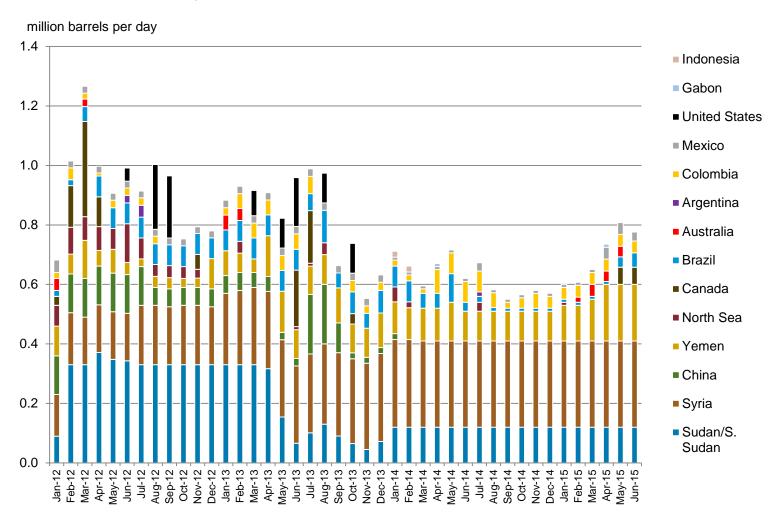
Source: U.S. Energy Information Administration, based on Chicago Mercantile Exchange (CME) and Intercontinental Exchange (ICE).

Figure 4. Estimated Unplanned Crude Oil Production Disruptions Among OPEC Producers, January 2012 – June 2015



Note: Estimated unplanned disruptions reflect the level of volumes shut in, accounting for effective production capacity. Source: U.S. Energy Information Administration.

Figure 5. Estimated Unplanned Petroleum and Other Liquids Production Disruptions Among Non-OPEC Producers, January 2012 – June 2015



Note: Estimated unplanned disruptions reflect the level of volumes shut in, accounting for effective production capacity. Source: U.S. Energy Information Administration.